

ABSTRACT

A commercially mass-produced, integrated circuit including:
a solid substrate of one conductivity type;

at least one solid material pocket of a different conductivity type having a side surface and positioned on a selected top surface of the substrate to thereby form a signal-translating, electronic rectifying barrier between the at least one solid material pocket and the selected top surface of the substrate; and

a solid state material region adjoining the substrate, the electronic rectifying barrier, and the side surface of the at least one solid material pocket;

wherein next to the electronic rectifying barrier the solid state material region has a lateral dimensional accuracy of better than a few hundred atomic layers.